Remarks

This paper is in response to the Notice of Non-compliant Amendment mailed October 16, 2008 and in response to the Office Action mailed June 16, 2008. By way of this paper, Claims 1-20 have been cancelled, and new Claims 21-43 have been added. No claims have been amended. As such, Claims 21-43 are presently pending in this application.

In response to the Examiner's Office Action, Applicant has revised the claims by way of replacement, and submits that the claims as now presented are patentable in view of the following remarks.

The present invention relates to the provision of a flexible service mode in an injector to allow the more accurate and flexible adaptation of the injector to syringe variations.

As explained in the Background of the application, paragraph 0007, "[i]n the past, accommodating syringe variations was often difficult, time-consuming and expensive. The firmware for controlling the injector typically includes definitions of permitted syringes. Thus, any changes to the physical parameters of a syringe required entirely new firmware such as EPROMS, or other non-volatile storage, to be created which then required service personnel to visit each site having an injector in order to replace the outdated EPROM."

Although some injectors have attempted to provide for adjustments to new syringes, in the past this has not been done in a satisfactory way. As explained in the Background at paragraph 0008, "[s]ome injector systems require the operator to provide information about a syringe's physical characteristics as part of performing an operational routine with the injector system. This approach, however, does not address the need for a service technician to be able to easily update syringe definitions stored within an injector system wherein such definitions can then be used during separate operational routines."

Notably, including steps in the operational routine that require the operator to provide information about the syringe, delays the injection process during normal operation and increases its complexity. This is exactly what is done by the prior art

cited by the Examiner1, and it is clearly inferior to providing a separate mode in which these parameters may be entered.

The present invention accomplishes the desired syringe flexibility, while at the same time maintaining a streamlined operational mode. Specifically, the present invention provides for a service mode in which parameters are set, which is separate from the operational mode in which those parameters are used for medical injections. Claims 21 and 27 recite a "mode of the injector system that permits use of service-related functions by a service technician different from those involved in medical injection." There is no provision in the prior art cited by the Examiner, for a separate "service mode" in which parameters are set. Rather, the prior art that has been cited includes parameter setting in the regular operational mode of the injector, meaning that the operational mode is more cumbersome and time consuming than can be the case when a separate service mode is used for those functions. The present claims are therefore patentable over the prior art for this reason.

Applicant separately draws the Examiner's attention to claims 32 and 41 which recite that "at least two syringe constants" are input by the user as part of data collection of syringe constants by the injector. This distinguishes the references cited in that those references show only the collection of a single parameter from the user, specifically, the syringe capacity. (An automated measurement of the stroke length for the syringe does not constitute obtaining user input of the stroke length, and is not likely to be as representative of the intended syringe design.) Collecting plural parameters from the user can increase the accuracy of injection, but would appear to be impractical where the parameter collection is part of the normal medical use of the injector. The present invention, however, permits the collection of plural parameters in a practical manner, and thus is patentable for that reason as well.

This response is believed to be timely. If, however, any petition for extension of time is necessary to accompany this communication, please consider this paper a

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[1] Contrary to the Examiner's assertion, what is shown in U.S. Patent 6,200,289 Fig. 11 and col. 9 is not a separate service mode that is distinct from normal medical use, but is "[t]he sequence of operation for the system 10" – that is, the setting of parameters is part of the normal medical use.

petition for such an extension of time, and apply the appropriate extension of time fee to Deposit Account 23-3000. If any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

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